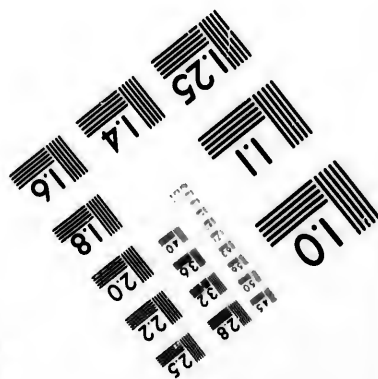
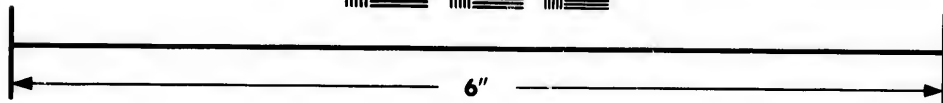
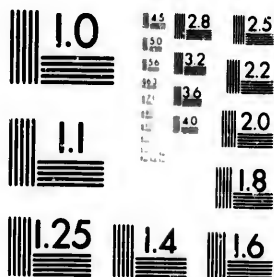


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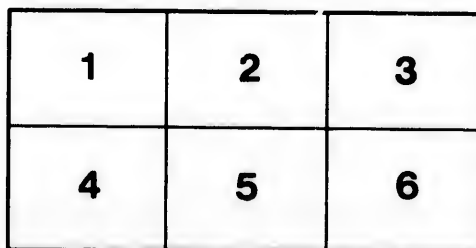
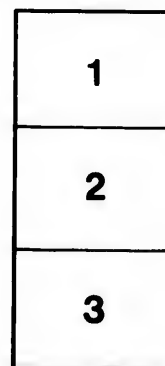
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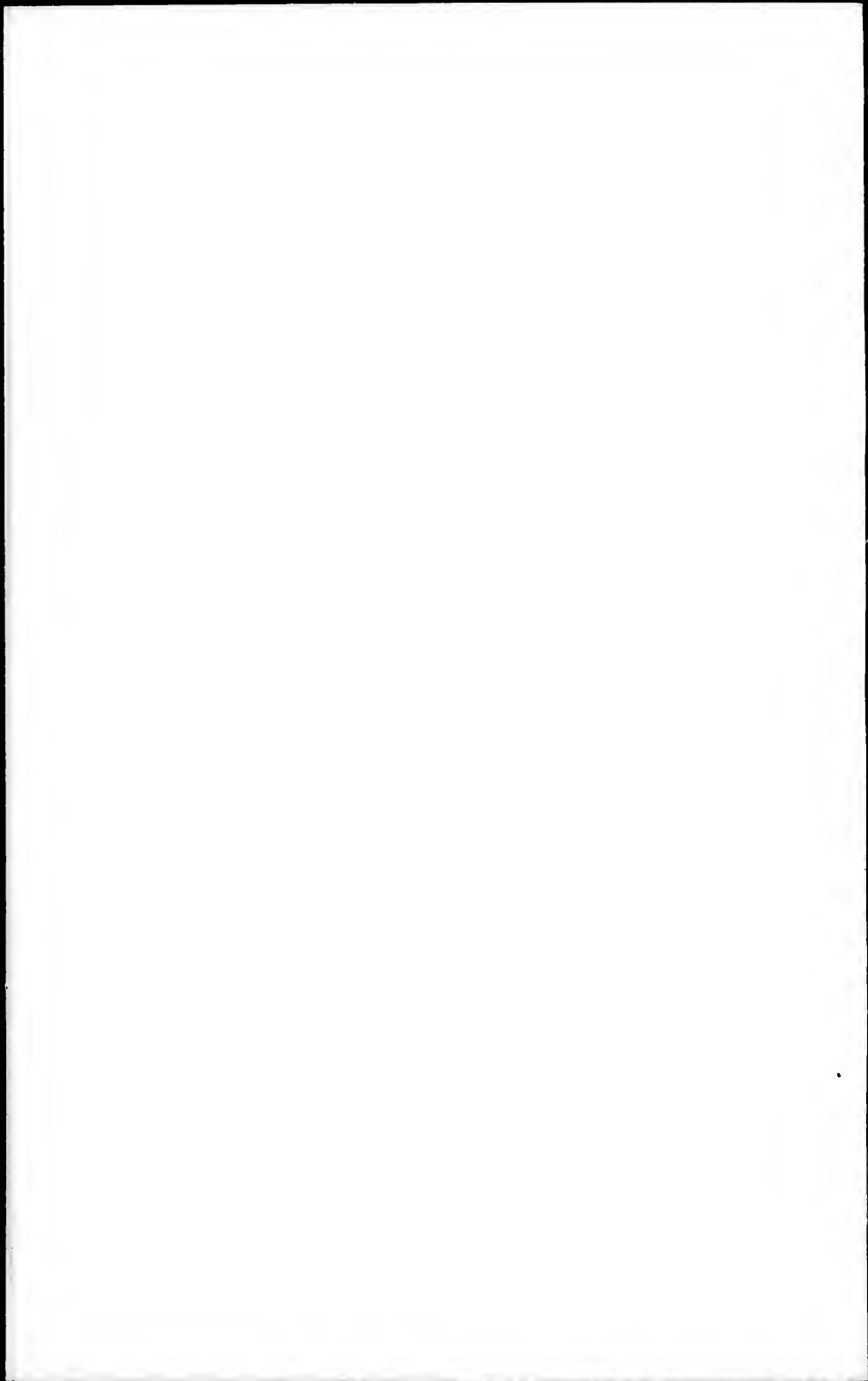
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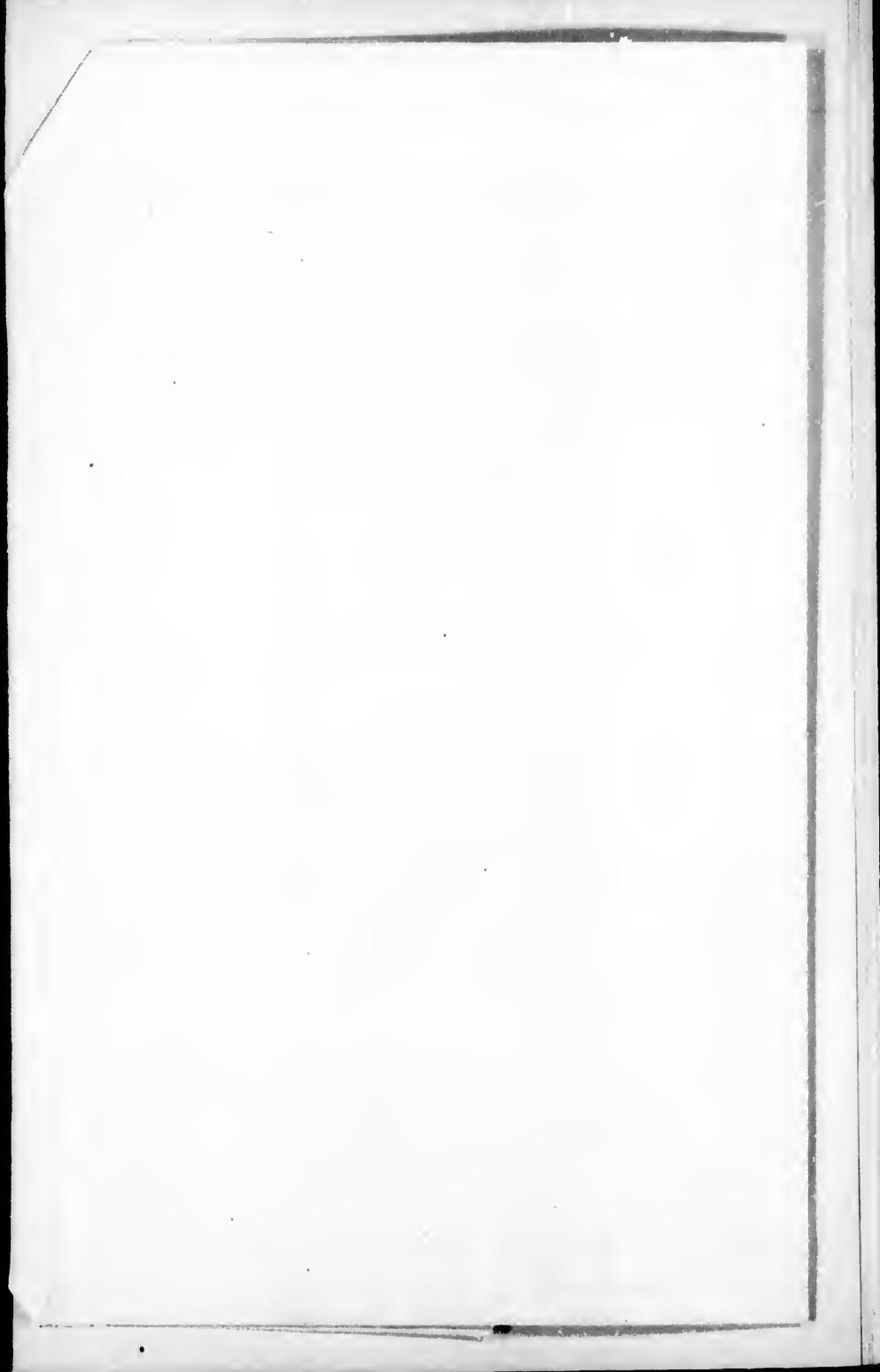
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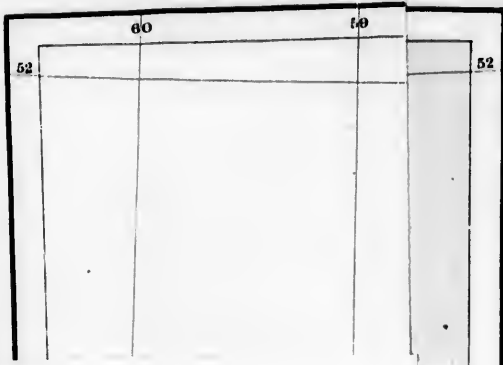
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# GEOGRAPHY AND RESOURCES

OF

## NEWFOUNDLAND.

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It is not a little remarkable that the oldest colony of Great Britain, and the nearest to her, should be the last, or nearly the last, of which anything beyond the mere sea-coast (and that but indifferently) is known. Until within the last few years, the whole of the vast interior of this great island was as much a "terra incognita" to the exterior world and even to the residents (who occupy the coast only) themselves, as it was in the days of Sebastian Cabot or Jacques Cartier; and it is difficult even now to persuade many people, even amongst those who have lived in the country all their lives, that it is anything more or better than a vast fishing-rock, enveloped in everlasting fog, placed in an Arctic position in the Atlantic Ocean. Many circumstances have combined to produce the most unfavourable impressions as to the climate, soil, and capabilities of Newfoundland; and representations have been so contrived as to foster ignorance and prejudice, and to retard civilisation and progress. Thus the prevailing opinion has been formed that the natural resources of the island are absolutely *nil*, while the produce of the sea alone, with a strand to land it on, is all that nature intended as an inheritance for the unfortunate island and its possessors. The principal, or rather, indeed, only object in view in presenting this Paper, is to show that many of the objections urged to the colonisation of Newfoundland are utterly untrue, and that the fact in many respects is, that its natural resources are of a very high order, and may, with properly applied capital and skilled labour, be developed into great and important industries.

The geographical position of Newfoundland is (or ought to be) well known, and its general outline of coast, with its triangular form, its numerous promontories and deeply-cut indentations, have long been represented on maps and charts



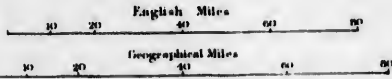


Map of  
**NEWFOUNDLAND**

to accompany the Paper

by

Alexander Murray Esq<sup>r</sup>



The parts coloured green represent the tracts  
now known to be more or less fit for settlement.



of various dates; but the coast-surveys until within the last few years were very inaccurate in the detail at nearly all parts; and there has been no British Admiralty Survey of the western and northern coast for upwards of one hundred years. The last survey here referred to was made in 1772 by the celebrated Captain James Cook; and the work generally, considering the time and appliances at the great navigator's disposal, are beyond all praise, in accuracy being a marked and favourable contrast with some surveys of much later date. Since about the year 1862, several revised surveys have been made under Captains Orlebar and Kerr, Lieutenants Robinson and Maxwell, and other officers of the Royal Navy, which have greatly added to a correct knowledge of the coast outline, the innumerable islands, and the character and soundings of the seabottom; but unfortunately, these surveys have recently, except at a few places where the discrepancies were most glaringly objectionable, been discontinued in favour of Labrador. We have now, however, the satisfaction of having an accurate coast chart for our guidance from the head of Placentia Bay round Cape St. Mary, Cape Race, and along the eastern coast as far as the Twillingate (or Toulinguet) Islands, at the southern entrance of Notre Dame Bay, together with the Islands of St. Pierre and Miquelon, and detached portions of the southern shores; but in the meantime the whole of the remainder very much requires <sup>super</sup>vision.

*The Interior.*—Previous to the year 1864 it is perfectly safe to say that no survey, or anything approaching a survey, properly so called, had ever been accomplished, or even attempted, anywhere inside of the coast line. In the early part of that year, the late Sir William E. Logan, then Director of the Geological Survey of Canada, was appointed by the Local Government of Newfoundland to initiate a geological investigation of the island. At that time, I being the first assistant on the Canadian staff, was offered the appointment, and accepted it; left Canada, and immediately made arrangements with the Government to carry on the inquiry as vigorously as possible, and began operations in May of that year. Since that time till the present day I have been incessantly busily engaged in this work; have visited, more or less, every part of the country, from centre to circumference, and have carefully recorded all my experiences from day to day, which finally were condensed annually in the form of a Report of Progress, addressed to the Governor of the Colony. Although my duties were supposed to be purely geological, and particularly in reference to the prospects of the presence or otherwise of

metallic ores or other economic mineral substances, a very large proportion of my time was necessarily occupied in topographical surveying, the result of which is the map which accompanies this, it being from an original scale of  $2\frac{1}{2}$  miles to one inch, reduced to a scale of 25 statute miles to one inch.\* Any one at all acquainted with geological investigation, and with the absolute necessity of a correct map upon which to delineate the boundaries of formations, and otherwise to represent the structural details, will at once perceive that topographical work, in a case like mine, where no one simple feature was correctly represented, and many most important ones not represented at all, was of paramount importance to arriving at even an approximate conclusion in regard to geological facts. Hand-maps and other maps certainly had been previously published, showing certain imaginary mountains, lakes, streams, rivers, &c., but no measurement or triangulation had been attempted; and the result was, as might be expected, a most perfect caricature of the reality, where no one single feature was drawn in its right place, or in the remotest degree resembled the object it was intended to represent. The plan I adopted for carrying on these surveys was on the same principle as that usually practised by the officers of the Government Survey of Canada, namely, to scale the principal watercourses by means of prismatic compass and Rochon's micrometer telescope, keeping up a connected system of triangulation from all the most conspicuous heights, and by taking repeated astronomical observations for latitude and magnetic variation. By these means the whole of the great features of the island have been laid down, and in some parts, especially on the western side of the island, a considerable amount of coast and minor detail. These surveys, moreover, have been connected at several parts to the more accurate and recent work of the Admiralty surveyors, and last year they were further checked by a regular and systematic survey for a railroad, by transit and level from St. John's Harbour to St. George's Bay. The result has proved highly satisfactory, as demonstrating the accuracy of the topographical work of the Geological Survey, which was accomplished under many difficulties.

My experiences in the interior of the country, while carrying on the geological investigation, enable me to speak with a considerable degree of confidence as to its merits and demerits, and encourage me to assert that the opinions generally enter-

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\* The engraved map accompanying the Paper is still further reduced to a scale of about 39 miles to an inch.—ED.

tained are in many respects erroneous, and in all must be more or less modified. To make my statements as explicit as possible, I shall attempt to give a faithful account of the subject by arranging it under the following heads: viz., General Geographical Character; Climate; Timber and Mineral Lands.

*General Geographical Character—Mountains.*—The coast at all parts of the island seaward is essentially what is usually termed *iron-bound*, rising frequently in bold, lofty precipices, vertically, or nearly so, from the sea. The general character of the outer interior may be justly termed mountainous, although in no case do the mountains attain a very remarkable altitude; but the inner interior may be more properly described as a vast elevated and undulating plateau, with ranges of minor hills alternating with shallow valleys. The general trend of all the great physical features is about N.N.E. and S.S.W., the principal range of mountains, commonly called "The Long Range," running near the western side of the island for nearly its entire length. The Cape Anguille range and the Blo-mi-dons—the latter of which (on the south side of Humber Sound) rise to an altitude in some instances considerably over 2000 feet—run outside and nearer to the western coast than the Long Range proper, and parallel to it; but being of quite a distinct geological age, and altogether different in feature and character, are to be considered as independent and separate features. The land rises in mountain masses from the southern coast between Cape Ray and Bay D'Espoir\* at nearly all parts; but a very decided range of extremely rugged and desolate hills, reaching at many parts an elevation of upwards of 2500 feet, may be traced diagonally across the island, running nearly parallel with the Long Range towards the Grand Pond and Hall's Bay. Towards the eastern side of the island, other well-defined ranges of hills, such as the Black River and North Harloc ranges, which run in the same parallel direction between the heads of Placentia Bay and Clode Sound, in Bonavista Bay—the Sawyers Hills in the St. Mary's Peninsula, and the Chissel Hills of Eastern Avalon, all maintaining the same general course. Besides the great hill ranges, a set of remarkable isolated and sharply-peaked summits, locally known as tols, are distributed over the interior, which, rising abruptly at intervals out of the great central plateau, serve admirably as landmarks to guide the Indian or sportsman on his line of march.

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\* Corrupted into "Despair" on the charts.—ED.

*Rivers.*—Much of the prevailing ignorance of the real character of the country is, beyond all doubt, attributable to the fact that it has been generally taken for granted to be destitute of great rivers; a notable example of which may be recorded as being the expressed opinion of no less a personage than the late Sir Thomas Cochrane, a most justly highly respected and progressive governor of the province, who, having visited all the outports, and circumnavigated the island, came to the conclusion that it possessed in no case any stream of water that could be appropriately dignified as a *river*, or that was entitled to any higher designation than a *mere brook!* Let us see now what the facts are, as determined by actual survey. The most important of the rivers are the Exploits, the Humber, and the Gander, while there are many more, such as the Indian Brook and others of Hall's Bay, the Gambo and Terra Nova in Bonavista Bay, &c., the drainage of which fully entitle them to class in the category.

*The Exploits.*—The Exploits River rises in the extreme southwestern angle of the island, and within twelve miles of the southern coast, near La Poile, and flowing in a north-easterly direction, terminates in the Bay of Exploits, Notre Dame Bay; the distances from the source to the outlet measuring very nearly *two hundred miles* in an air-line. The upper waters flow in two minor branches, the Exploits proper and the Victoria branch, of about equal size, both of which empty into Red Indian Lake, which itself is upwards of 36 miles long, with an average width of about two miles, and very deep; whence flows the main stream for 72 miles to the sea. The normal surface of Red Indian Lake is 468 feet above the sea, and its total area is 69 square miles. There are numerous tributaries to this great river, some of which might with justice be termed rivers themselves, and the whole area drained by the Exploit Valley is nothing under *three thousand square miles*.

*The Humber.*—The Humber also rises in two branches; one branch, which is usually known by the Indians as the main branch, taking its origin about 20 miles inland from Bonne Bay on the western coast, flowing first north-easterly till within ten miles of the head of White Bay on the north-eastern coast, where it bends round and runs south-westerly to Deer Pond. The other branch heads with the Indian Brook of Hall's Bay, and flowing south-westerly, and generally parallel with the other great features, expands into a succession of small lakes, and finally into Sandy Pond and the Grand Pond. The inlet and outlet of the latter are within three miles of each other, and both at the extreme northern



end of the lake, the stream flowing rapidly, and in a circuitous curve, westerly to its junction with the main branch about six miles above Deer Pond. Deer Pond is about 16 miles long, and has a surface area of 24 square miles. From Deer Pond, which is only about 10 feet above the high-tide level, the river flows majestically to the sea, at the head of the Humber arm, Bay of Islands. The lake expansions on this magnificent river are numerous, and many of them of vast area. The surface area of the Grand Pond is no less than 192 square miles, which includes an island of 56 square miles. The whole area drained by the waters of the Humber I have elsewhere estimated at something over 2000 square miles.

*The Gander.*—The third of the great rivers of Newfoundland is the Gander. This, like the other two, rises from two sources; one being within a short distance of the Bay d'Espoir, on the southern coast, and interlocking with the south-flowing waters, whence it flows north-easterly, keeping a tolerably straight course, to its outlet into the Great Gander Lake. The other branch interlocks with the Gambo and other streams of Bonavista Bay, meanders circuitously westward, and finally to the northward, falling into the Great Gander Lake at the (so-called by the trappers) south-west arm. The Great Gander Lake is of a serpentine form, is upwards of 36 miles long, averaging a width of two miles or upwards, and has a surface area of 44 square miles. The lower stream flows in an easterly direction for upwards of 31 miles into Freshwater Bay. The river is easily navigable for boats or canoes up to the lake, the surface elevation of which is 75 feet above the level of the sea. The depth of this lake was found by soundings to be at some parts nearly 100 fathoms. The area drained by the waters of the Gander is about 2500 square miles.

*South-flowing Rivers.*—There are numerous streams which discharge great volumes of water on the southern coast, whose courses rise at right angles to the course of the great main arteries, such as the Bay d'East River, Bay de North River, Little River, White Bear River, the La Poile, &c.; but these, rising at no great distance from the Exploits, and interlocking with its tributaries, are comparatively short in length, and, except when temporarily expanded at the broader parts into lakes or ponds, rush in turbulent torrents to the sea from source to outlet. Many of these streams make a fall of not less than 1200 feet within a distance of under twenty miles in an air-line.

*St. George's Bay Rivers.*—The rivers and brooks which discharge on the south side of St. George's Bay also interlock with the tributaries of the Exploits taking their origin amongst the

mountains of the Long Range ; after leaving which, they flow in a westerly course through a wide expanse of level country to the sea.

*Character of Country.*—The southern country, between the head-waters of the Exploits and the sea, is a dreary, desolate waste, almost entirely void of vegetation, and for many months throughout the year enveloped in the densest of fogs,—cold, gloomy, and unattractive as any land can very well be ; and these parts of the coast being better known and more frequently visited by strangers than the more favoured localities, have given origin to the widely-spread misconception that the hideous characteristics of this special region apply without mitigation to the whole island. It is doubtless the case that over enormous tracts in the great central plateau, as also over a great area of the peninsula of Avalon, and on the great northern peninsula, marshes, and what are appropriately called brens, occupy the surface ; but in nearly all cases the valleys of the rivers are well wooded, and most of them possess level and fertile tracts here and there where cultivation of the soil would certainly be remunerative, particularly as auxiliary to other industry. These great plains are dotted over by innumerable ponds and tarns, in many instances occupying fully one-half of a whole area of many square miles ; indeed, it has been asserted, that were the whole island mapped out in detail, more than one-third of the whole surface would be represented by water. But it is in the valleys of the three great arteries of which I have already made special mention that agriculture is likely to become a great and important industry of itself, more particularly if those favoured regions are immediately opened up as timber limits to enterprising lumbermen, whose interest it would be to construct roads and encourage settlement. According to a rough estimate I made some time ago, there is an extent of fully 1000 square miles of available country in the combined valleys of the Gander and Gambo Rivers, and there is nearly as much more upon the Exploits, inclusive of the arms and bays at its mouth ; while upon the western side of the island, the Humber Valleys, the country on both sides of St. George's Bay, and extensive tracts surrounding Port-a-Port Bay, present hundreds of square miles which bear favourable comparison with the best regions of the lower provinces of the Dominion.

*Climate.*—There is no subject connected with the geographical history of Newfoundland more utterly misunderstood than the climate. Strangers approaching the island from the Great Banks, or sailing along its southern coast, have almost invariably to grope their way through a mass of dense fog, more especially



during the summer months; and they, perhaps not unnaturally, assume that this gloomy characteristic applies equally to the whole country. Experience, however, teaches us that such is very far from being the case; and these same visitors who have only seen the south and south-eastern parts of the island, might be somewhat surprised when told that all the country on the north-west side of a line drawn diagonally across the land from Cape Ray to Cape Bonavista is usually as bright and with as transparent a sky as any part of Canada. The fogs engendered on the Great Banks, brought in by southerly or south-westerly winds, fill up all the bays and creeks on the southern shore; but after rounding Cape Ray, and running up the western coast towards Codroy, these watery vapours suddenly cease altogether, and may be seen as a dense dark cloud butting up against the mountain-sides, and stretching, like a great grey wall, away far out to sea to the westward. The great Bay of Placentia, with its numerous points, creeks, and coves, is a great receptacle for these fogs, which hang over it like a pall for days and sometimes for weeks together; while southerly and south-westerly winds carry the vapours before them across the narrow isthmus of the peninsula of Avalon, and fill up Trinity Bay in like manner. Conception Bay is comparatively clear, the fog being checked by the hills and greater breadth of that part of the peninsula; and even at St. John's the atmosphere is often clear, bright, and balmy, while some three miles out to sea one vast dark mass of fog stands up like distant land on the horizon. In Trinity Bay also, while all is enveloped in mist in the middle of the bay, the long inlets are perfectly free from it, and the sun shines bright and cheerfully. Northward of Cape Bonavista fogs are of very rare occurrence, and throughout the great interior, north of the aforesaid line, they may be said, as a rule, to be absent altogether. In other respects the climate of Newfoundland is, as compared with the neighbouring continent, a moderately temperate one. The heat is far less intense, on an average, during the summer than in any part of Canada, and the extreme cold of winter is much less severe. The thermometer rarely indicates higher than 70° Fahr. in the former, or much below zero in the latter; although the cold is occasionally aggravated by storms and the humidity consequent upon an insular position. The climate is undoubtedly a very healthy one, and the general *physique* of the natives, who are a powerfully-built, robust, and hardy race, is a good example of its influence.

*Forest Timber.*—The best of the indigenous forest timber consists of white pine, white and black spruce, tamerook (larch), fir (called *var* in Newfoundland), yellow birch (called witel-

hazel), and white birch. These abound chiefly in the valleys of the great rivers already mentioned, and the valleys of their tributaries, but they prevail also, more or less, in all the minor valleys, and notably over the country surrounding St. George's Bay and Port-a-Port Bay. Large tracts of country in the Humber Valley yield groves of the finest description of white pine, which is also the case in the valley of the Exploits and sundry of its tributaries; and over a vast extent of the Gander and Gambo countries. In each of these regions a great timber trade might be established, which would assuredly be succeeded by settlement, for which a great extent of the land is admirably adapted. The spruces and larches are known to be of the best of quality for ship-building purposes, while the yellow birch is said to be equal in durability to English oak. This latter timber abounds chiefly on the western side of the island, and particularly about the St. George's Bay region, where it frequently attains a great size, both in girth and height.

*Mineral Resources.*—There is every probability that vast tracts on both sides and centre of the island contain metallic ores of great value and importance. The chief of these are copper, nickel, lead, and iron, which are usually more or less nearly associated with serpentine and other magnesian rocks of Lower Silurian age. The presence of the precious metals has been indicated by analysis at a few parts, and native silver is said to have been found in Fortune Bay. In the meantime the only mines in active operation are at Tilt Cove and Betts' Cove, both in Notre Dame Bay, and at La Manche, in Placentia Bay; but the developments recently made at the two former places have been so encouraging, that there can hardly be a doubt that the energy and enterprise displayed by the proprietors and directors of these locations will be imitated by many other capitalists, and the Bay of Notre Dame, particularly, will soon become a great mining centre.

*Coal and other Mineral Substances.*—Rocks of carboniferous age are spread over a vast extent of country in the St. George's Bay region, and in the valley of the Humber, near the Grand Pond, and there appear to be a few worked seams of coal. <sup>able</sup> These latter, although apparently occupying only a limited area, may probably be found, when fairly opened up, to be of very great local importance, as their position in each case is in the centre of a country well adapted for settlement, near to metallic minerals, and within a short distance of the terminus of the proposed railroad. The lower part of the same formation also contains enormous masses of gypsum, and the numerous saline

springs and incrustations of salt upon the surface of the exposed rocks show the existence of that mineral, which in all probability might be utilised. Of ordinary economic materials the country contains abundance. Roofing-slates of admirable quality may be worked out in Trinity Bay. Marbles of various descriptions are known at Canada Bay, Bay of Islands, and several other localities; splendid granites occur at many parts of the great Laurentian country, while sandstones and limestones for building and other purposes abound, especially at the northern and western sides of the island.

*Retrospect.*—It may very reasonably be asked why, with all these natural resources, with a salubrious climate, and the great advantage of comparatively close proximity to the Mother Country, has this island been so utterly ignored, while labour and capital has steadily and constantly advanced past it, to fill up the wild regions of Canada, or to regenerate the unhealthy plains and great prairies of the Far West? The answer to this question is not far to seek, although to some interested individuals it may appear invidious. It has hitherto been the almost invariable custom, originating in ignorance, and persisted in through prejudice, to represent the country as unfitted for any occupation but *fishing*, as having no land worth tilling, and no timber worth cutting more than required for building fishermen's huts, and fishing-stages, or to yield an occasional spar for a boat or small vessel. It is not taken into account that the surface of the island is actually nearly a third larger than Ireland; that is to say, it contains an area, inclusive of its islands, of about 42,000 square miles. It is not considered that no surveys have been made till lately; and that the coast residents of intelligence have rarely, if ever, seen anything whatever of the great interior; nor is allowance made for the absence of accurate information from the want of roads, or any but the most primitive means of communication. People in England, or in any of the more civilised colonies, would scarcely be made to believe that not many years ago *settlement* for farming, or other purposes utilising the land, was *prohibited* by statute; and that to this day the practical effect of the present law is to *deter* any enterprise that is not directly connected with the fisheries; that opening up lines of road through the country is mere folly; and that all the improvement required is a cow-path to lead from one fishing-station to another! Yet all this is literally and absolutely true, and there are those even now, in the face of all that has lately been proved on the evidence of the most credible witnesses of the facts, who pertinaciously maintain that the latter misrepresent the reality, and that nothing better than the

well-worn old groove of the alternative of fishing or starving is worth consideration in Newfoundland. In round numbers, the total population of the island at this moment is about 150,000 souls, supported almost altogether in provisions by the Dominion or the United States; while I have no hesitation in asserting that, were it treated like any of the maritime provinces of the Dominion, where mining, lumbering, and agriculture are duly encouraged, the time need not be far distant when the numbers of the inhabitants might be reckoned by tens or hundreds of thousands, and eventually by millions.

*The so-called French Shore.*—The greatest hindrance of all to advancement or progress of any kind is the arrogant pretensions of the French, founded upon old and misconstrued treaties, who assume not only an *exclusive* right of fishing, instead of a *concurrent* right, over one-half of the whole coast, but actually to exercise *territorial jurisdiction* over the same; excluding the owners of the soil from the use of harbours where mining, lumbering, and agriculture might be pursued. Thus the finest regions of the island are left at the mercy of these foreign intruders; the country is infested by lawless marauders and smugglers; the magnificent timber is being recklessly cut down or burnt; the salmon and herring fisheries are fast being ruinously destroyed, and not one single penny-piece comes in the shape of revenue to the exchequer of the province.

But at length there appears to be a glimmer of hope that the Colony is destined to see better days, and that its worth and capabilities may shortly be more generally recognised and appreciated. Pressure from without has done something in this direction, and the successful result of the two copper-mines which have been established is likely to stimulate inquiry and attract the attention of enterprising adventurers and capitalists. Upwards of 1000 people are steadily employed all the year round at these two mines alone, and many more are likely to be so employed hereafter; other mines are likely soon to spring into existence, and the influence that must be brought to bear through the agency of this mining population will be irresistibly in favour of agricultural settlement, and the establishment of means of communication, where a ready market will be always at hand for surplus produce. It is beyond all doubt that the best descriptions of grass, green crops, and most of the cereals, thrive admirably upon the lands surrounding the minor bays, Notre Dame; and that beef, mutton, pork, butter and cheese could be raised as well as in any part of the British North American dominions.

*Wild Animals, Fish, &c.*—The indigenous game, beasts, and birds of the country are of the finest possible description, and in

vast abundance; while the rivers and lakes abound in various species of fresh-water trout, and only require the due enforcement of the law preventing the outrageous and universal practice of barring the mouths of the rivers, to render them as prolific of salmon and sea-trout as any streams in the world. These attractions have, for several past years, induced travellers and sportsmen to visit the island; and few of those who have enjoyed a few weeks among those wild mountains and plains, have ever regretted the time spent there, or have failed to return to the scene of their adventures whenever opportunity offered. The principal beasts of the chase are the cariboo (a species of reindeer), the black boar, the Arctic hare, and the beaver. Wolves, foxes, martens, and weasels are sufficiently plentiful among beasts of prey. The game birds are three distinct species of grouse, of which the commonest is the willow-grouse (*Lagopus albus*, *Gmelin*), a bird quite equal in flavour, and affording sport little, if at all, inferior to the red grouse of the moors of Great Britain; wild geese, black duck, teal, snipe, curlew, golden and other plovers.

That these few hurried and imperfect remarks may have the effect of in some degree counteracting the very erroneous impressions too generally entertained regarding a very important possession, I sincerely hope; and let me add, that I feel very sanguine, should mining adventure extend as auspiciously as it has begun, there is a great future for Newfoundland; that roads and telegraph lines will intersect the present wilderness; that the axe of the lumberer and the lowing of oxen will resound through the forests, and that smiling fields and cheerful villages will replace the desolation of bygone years.

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